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RESPONSE UNDER 37 C.F.R. § 1.116  
EXPEDITED PROCEDURE  
EXAMINING GROUP 2600

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named  
Inventor : Max Donath

Appln. No.: 09/618,613

Filed : July 18, 2000

For : MOBILITY ASSIST DEVICE

Docket No.: U11.12-0137

Group Art Unit: 2673

Examiner: Leonid  
Shapiro

**RESPONSE TO FINAL OFFICE ACTION**

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Commissioner for Patents  
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PATENT ATTORNEY

This is in response to the Final Office Action mailed on May 17, 2004, in which the Examiner rejected claims 1-24 and 49-54. Reconsideration of the application is respectfully requested.

**OBJECTIONS TO THE DRAWINGS**

In Section 1 of the Office Action, the Examiner objected to the drawings under 37 C.F.R. §1.83(a) as failing to show every feature of the invention specified in the claims. In particular, the Examiner stated that "the 'including a liquid crystal display film on which the stored objects are displayed' as in claims 3, 54, must be shown or the feature(s) canceled from the claim(s)." Applicant respectfully disagrees with the Examiner's interpretation of 37 C.F.R. §1.83(a) and believes that no correction to the drawings is required.

37 C.F.R. §1.83(a) states that "conventional features disclosed in the description and claims, where a detailed

illustration is not essential for a proper understanding of the invention, should be illustrated in the drawing in the form of a graphical drawing symbol or a labeled representation (e.g., a labeled rectangular box)." (emphasis added) Accordingly, the cited rule only suggests that the drawings should show such conventional features. Applicant submits that the present invention is not directed to a novel liquid crystal display film. Rather the present invention makes use of conventional liquid crystal display films for their intended purpose in a novel system and, therefore, a detailed illustration of the film is not essential for proper understanding of the invention.

In particular, the present invention includes a display 22, which includes one or more combiners 42, as illustrated in FIG. 3A. As explained in the specification at page 21, line 25 through page 22, line 14, the combiner 42 or display 22 can include an LCD film, whose graphical representation is provided by the box 42 in FIG. 3A. The LCD film or display is used in a conventional manner to display images. Accordingly, Applicant submits that the graphical representation of the LCD film or display provided in the present application is sufficient to satisfy 37 C.F.R. §1.83(a), since its detailed description is not essential for a proper understanding of the invention. Therefore, Applicant requests that the objections to the drawings be withdrawn.

#### OBJECTION TO THE SPECIFICATION

In Section 2 of the Office Action, the Examiner objected to the specification as failing to provide proper antecedent basis for the claimed subject matter. In particular, the Examiner found claims 3 and 54 to include the limitation "a liquid crystal display film on which the stored objects are displayed", which was not described in the specification. Applicant respectfully disagrees with the Examiner's assessment of the specification of

the present application.

In particular, the claimed liquid crystal display (LCD) film is described in the specification as originally filed in the paragraph beginning on page 21, line 25, in which it is stated that "the combiner is equipped with an LCD film". The LCD film is described as allowing the combiner to perform other tasks, such as "the display of blocking templates which block or reduce glare from the sun or headlights from other cars." Accordingly, Applicant requests that the objection be withdrawn.

CLAIM REJECTIONS - 35 U.S.C. §102

In Section 3 of the Office Action, the Examiner rejected claims 1-2, 5-6 and 8 under 35 U.S.C. §102(e) as being anticipated by Zamojdo et al. (U.S. Patent No. 6,272,431). Applicant respectfully disagrees with the Examiner's assessment of the cited reference.

The present application is directed to a display (such as 22) on a mobile body (such as 124) of stored objects in a conformal manner. The stored objects correspond to object information contained in a data storage system (such as database 16). The "stored objects" correspond to real world stationary landmarks and objects, such as road elements (e.g., lane boundaries, lane barriers, lane stripes, etc.), street signs, and other landmarks [page 4, lines 16-19]. The "object information contained in a data storage system" defines the precise geographic locations of the landmarks corresponding to the stored objects [page 8, lines 12-18; page 10, lines 12-28]. Accordingly, the "stored objects" are different from sensed objects that are detected by radar or other means [page 11, line 16 through page 12, line 4; FIG. 3F]. The term "conformal" means that the displayed or "virtual" images of the stored objects are presented by the display in a fashion such that they are substantially aligned with the real world objects that would be seen by a user

having an unobstructed field of view [page 29, lines 10-16].

FIG. 3E provides an example of such a conformal display. In FIG. 3E stored objects, corresponding to right, left and center lane boundary object information contained in a data storage system, are displayed on the display as bright lines (such as shown in FIG. 3D) that are superimposed over the corresponding real world right, left, and center lane boundaries of the road on which the vehicle is traveling.

Applicant disagrees with the Examiner's finding that items 15-16 and 621 of FIG. 3 of Zamojdo et al. illustrate the conformal display described in claim 1 of the present application. Instead, Zamojdo et al. provide a head-up display that presents an image that appears to be "substantially parallel to the ground traversed and high above it . . . ." [Col. 2, lines 31-40] Accordingly, rather than being conformal to real world objects as viewed from the perspective of the user, the display of Zamojdo et al. is perceived as being "suspended high above the ground . . . ." [Col. 2, lines 48-54] This is illustrated in FIG. 3 of Zamojdo et al. where the displayed map on windshield 16 includes a road and a town of "Closeville" that are not displayed in a conformal manner or, in other words, aligned with the corresponding real road or town of "Closeville", as viewed from the perspective of the user. Instead, they are positioned high above the real road and town. Additionally, the cited arrow 621 has no corresponding real world object onto which it can be displayed in a conformal manner.

Accordingly, Applicant submits that the display of independent claim 1, when read in light of the specification and the prosecution history of the present application, is neither taught nor suggested by the cited reference, and requests that the rejection be withdrawn. Additionally, Applicant submits that claims 2, 5, 6 and 8 are allowable as being dependent from allowable base claim 1, and requests that the rejections be

withdrawn.

CLAIM REJECTIONS - 35 U.S.C. §103

In Section 4 of the Office Action, the Examiner rejected claims 7, 13 and 16-18 under 35 U.S.C. §103(a) as being unpatentable over Zamojdo et al. in view of Groves et al. (U.S. Patent No. 5,414,439). In light of the discussion above, Applicant submits that claims 7, 13, 16-18 are allowable as being dependent from allowable base claim 1, and requests that the rejections be withdrawn.

In Section 5 of the Office Action, the Examiner rejected claims 4, 22-24 and 49 under 35 U.S.C. §103(a) as being unpatentable over Zamojdo et al. in view of Lemelson et al. (U.S. Patent No. 6,226,389 B1). In light of the discussion above, Applicant respectfully believes that claims 4, 22-24 and 49 are allowable as being dependent from allowable base claim 1, and requests that the rejections be withdrawn.

In Section 6 of the Office Action, the Examiner rejected claims 3, 9 and 11 under 35 U.S.C. §103(a) as being unpatentable over Zamojdo et al. and further in view of Sumiyoshi (U.S. Patent No. 5,734,358). Applicant respectfully believes that claims 3, 9 and 11 are allowable since they depend from claim 1, which is believed to be allowable for the reasons set forth above. Accordingly, Applicant requests that the rejections be withdrawn.

In Section 7 of the Office Action, the Examiner rejected claims 10 and 12 under 35 U.S.C. §103(a) as being unpatentable over Zamojdo et al. and Sumiyoshi, and further in view of Regan (U.S. Patent No. 6,218,934 B1). Applicant believes that claims 10 and 12 are presently in condition for allowance since they depend from claim 1, which is believed to be allowable for the reasons set forth above. Accordingly, Applicant requests that the rejections be withdrawn.

In Section 8 of the Office Action, the Examiner rejected

claims 14-15 and 19-21 under 35 U.S.C. §103(a) as being unpatentable over Zamojdo et al. and Groves et al. and further in view of Lemelson et al. In light of the discussion above, Applicant respectfully believes that claims 14-15 and 19-21 are allowable as being dependent from allowable base claim 1, and requests that the rejections be withdrawn.

In Section 9 of the Office Action, the Examiner rejected claims 50-53, under 35 U.S.C. §103(a) as being unpatentable over Zamojdo et al. (U.S. Patent No. 6,272,431) in view of Endo et al. (U.S. Patent No. 6,289,278 B1). Applicant respectfully disagrees with the Examiner's assessment of the cited references.

In particular, Applicant disagrees with the Examiner's finding that Zamojdo et al. disclose a mobile assist device that includes the claimed "stored objects" and the claimed "display" as described in independent claim 50, for the reasons set forth above. However, Applicant agrees with the Examiner that Zamojdo et al. "does not show each of the virtual images substantially overlay the real world object corresponding to the stored object of the virtual image when viewed from perspective of a user."

However, Applicant disagrees with the Examiner's finding that Endo et al. teaches such a limitation at FIGS. 17-19, 22, items 200-2001, 2010-2012, and column 1, lines 45-68. In particular, none of the cited sections of Endo et al. disclose the claimed display of virtual images "each of which substantially overlays the real world object corresponding to the stored object of the virtual image when viewed from a perspective of a user", as described in independent claim 50. For example, the cited FIGS. 17 and 22 are views of a navigational map that show a mark 2000 that represents the user's vehicle. Such a view is not a possible view "from a perspective of a user", as described in claim 50 when read in light of the specification. Additionally, FIGS. 18 and 19 are birds-eye views that merely illustrate a method of generating a road of a navigational map

and are unrelated to the display of claim 50. Furthermore, column 1, lines 45-68 of the background of Endo et al., only describes the desire of a navigational device to display the position of a motor vehicle that is in front of the user's motor vehicle in the display of the navigational map such that the lane position of the front vehicle can be determined. In other words, Endo et al. are concerned with the displaying of a front vehicle on a navigational map in such a manner as to allow the user of the system to ascertain which lane the front vehicle is in. However, the cited section of Endo et al. provides no discussion of conformably displaying the front vehicle on the navigational map in a way that would relate to the device of claim 50, which would require the displaying of the graphical image on the navigational map that represented the front vehicle in such a manner as to overlay the real world front vehicle when viewed by the user.

Accordingly, Applicant submits that the cited sections of Endo et al. fail to provide any enabling disclosure of the displaying of virtual images in the manner described in independent claim 50 of the present application. Rather, Endo et al. relates to the superimposing of images on a generated (virtual, non-real world) navigational map, as illustrated in FIGS. 16, 17 and 20-22 of Endo et al. Accordingly, Applicant submits that the combination of the Zamojdo et al. and Endo et al. fails to disclose or even suggest the device of claim 50.

Furthermore, the Examiner fails to identify any motivation or suggestion to combine the cited references, outside of Applicant's disclosure. Instead, the Examiner relies on the teachings of Applicant's disclosure to discern the "obviousness" of the claimed invention even though at the time the Applicant made the claimed invention, those of more than ordinary skill in the relevant art had failed to perceive the device of independent claim 50. Such use of hindsight is improper. *In re Lee*, 61 USPQ2d 1430 (Fed. Cir. 2002) ("It is improper, in determining whether a

person of ordinary skill in the art would have been led to this combination of references, simply to '[use] that which the inventor taught against its teacher.'" (quoting *W.L. Gore v. Garlock, Inc.*, 220 USPQ 303, 312-13 (Fed. Cir. 1983)).

Accordingly, Applicant submits that the Examiner has failed to establish a *prima facie* case of obviousness against claim 50, and requests that the rejection be withdrawn. Additionally, Applicant submits that claims 51-53 are allowable as being dependent from allowable base claim 50, and requests the rejections be withdrawn.

In Section 10 of the Office Action, the Examiner rejected claim 54 under 35 U.S.C. §103(a) as being unpatentable over Zamojdo et al. and Endo et al., and further in view of Sumiyoshi (U.S. Patent No. 5,734,358). Applicant respectfully submits that claim 54 is presently in condition for allowance as being dependent from allowable base claim 50, and requests that the rejection be withdrawn.

#### CONCLUSION

In view of the above comments and remarks, it is believed that the present application is in condition for allowance. Consideration and favorable action is respectfully requested.

The Director is authorized to charge any fee deficiency required by this paper or credit any overpayment to Deposit Account No. 23-1123.

Respectfully submitted,

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